

Why and how to embrace AI such as ChatGPT in your academic life

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Abstract

Generative artificial intelligence (AI), including large language models (LLMs), is poised to transform scientific research, enabling researchers to elevate their research productivity. This article presents a how-to guide for employing LLMs in academic settings, focusing on their unique strengths, constraints and implications through the lens of philosophy of science and epistemology. Using ChatGPT as a case study, I identify and elaborate on three attributes contributing to its effectiveness—intelligence, versatility and collaboration—accompanied by tips on crafting effective prompts, practical use cases and a living resource online (<https://osf.io/8vpwu/>). Next, I evaluate the limitations of generative AI and its implications for ethical use, equality and education. Regarding ethical and responsible use, I argue from technical and epistemic standpoints that there is no need to restrict the scope or nature of AI assistance, provided that its use is transparently disclosed. A pressing challenge, however, lies in detecting fake research, which can be mitigated by embracing open science practices, such as transparent peer review and sharing data, code and materials. Addressing equality, I contend that while generative AI may promote equality for some, it may simultaneously exacerbate disparities for others—an issue with potentially significant yet unclear ramifications as it unfolds. Lastly, I consider the implications for education, advocating for active engagement with LLMs and cultivating students' critical thinking and analytical skills. The how-to guide seeks to empower researchers with the knowledge and resources necessary to effectively harness generative AI while navigating the complex ethical dilemmas intrinsic to its application.